

5 SEQUENCE LISTINGS

<110> Maxygen ApS

<120> Factor VII or VIIa-like molecules

10 <130> 0212WO100

<140>

<141>

15 <160> 11

<170> PatentIn Ver. 2.1

20 <210> 1

<211> 406

<212> PRT

<213> Homo sapiens

25 <220>

<221> MOD_RES

<222> (6)..(35)

<223> Xaa = gamma carboxyglutamic acid or glutamic acid

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30 Ala Asn Ala Phe Leu Xaa Xaa Leu Arg Pro Gly Ser Leu Xaa Arg Xaa
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Cys Lys Xaa Xaa Gln Cys Ser Phe Xaa Xaa Ala Arg Xaa Ile Phe Lys
20 25 30

35 Asp Ala Xaa Arg Thr Lys Leu Phe Trp Ile Ser Tyr Ser Asp Gly Asp
35 40 45

40 Gln Cys Ala Ser Ser Pro Cys Gln Asn Gly Gly Ser Cys Lys Asp Gln
50 55 60

Leu Gln Ser Tyr Ile Cys Phe Cys Leu Pro Ala Phe Glu Gly Arg Asn
65 70 75 80

45 Cys Glu Thr His Lys Asp Asp Gln Leu Ile Cys Val Asn Glu Asn Gly
85 90 95

Gly Cys Glu Gln Tyr Cys Ser Asp His Thr Gly Thr Lys Arg Ser Cys
100 105 110

50 Arg Cys His Glu Gly Tyr Ser Leu Leu Ala Asp Gly Val Ser Cys Thr
115 120 125

55 Pro Thr Val Glu Tyr Pro Cys Gly Lys Ile Pro Ile Leu Glu Lys Arg
130 135 140

Asn Ala Ser Lys Pro Gln Gly Arg Ile Val Gly Gly Lys Val Cys Pro
145 150 155 160

5 Lys Gly Glu Cys Pro Trp Gln Val Leu Leu Leu Val Asn Gly Ala Gln
165 170 175
Leu Cys Gly Gly Thr Leu Ile Asn Thr Ile Trp Val Val Ser Ala Ala
180 185 190
10 His Cys Phe Asp Lys Ile Lys Asn Trp Arg Asn Leu Ile Ala Val Leu
195 200 205
Gly Glu His Asp Leu Ser Glu His Asp Gly Asp Glu Gln Ser Arg Arg
15 210 215 220
Val Ala Gln Val Ile Ile Pro Ser Thr Tyr Val Pro Gly Thr Thr Asn
225 230 235 240
20 His Asp Ile Ala Leu Leu Arg Leu His Gln Pro Val Val Leu Thr Asp
245 250 255
His Val Val Pro Leu Cys Leu Pro Glu Arg Thr Phe Ser Glu Arg Thr
260 265 270
25 Leu Ala Phe Val Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu
275 280 285
Asp Arg Gly Ala Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg
30 290 295 300
Leu Met Thr Gln Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser
305 310 315 320
35 Pro Asn Ile Thr Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser
325 330 335
Lys Asp Ser Cys Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr
340 345 350
40 Arg Gly Thr Trp Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys
355 360 365
Ala Thr Val Gly His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile
45 370 375 380
Glu Trp Leu Gln Lys Leu Met Arg Ser Glu Pro Arg Pro Gly Val Leu
385 390 395 400
50 Leu Arg Ala Pro Phe Pro
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55 <210> 2
<211> 1338
<212> DNA
<213> Homo sapiens
60 <220>
<221> CDS
<222> (115)..(1335)

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	gaa cac gat ctg tcc gag cat gac ggg gac gaa cag tcc cgc cgg gtg		789
10	Glu His Asp Leu Ser Glu His Asp Gly Asp Glu Gln Ser Arg Arg Val		
	210	215	220
	gct cag gtc atc att ccc tcc acc tat gtg cct ggc acg acc aat cac		837
	Ala Gln Val Ile Ile Pro Ser Thr Tyr Val Pro Gly Thr Thr Asn His		
	230	235	240
15	gat atc gct ctg ctc cgc ctc cac cag ccc gtc gtg ctc acc gat cac		885
	Asp Ile Ala Leu Leu Arg Leu His Gln Pro Val Val Leu Thr Asp His		
	245	250	255
20	gtc gtg cct ctg tgc ctg cct gag cgg acc ttt agc gaa cgc acg ctg		933
	Val Val Pro Leu Cys Leu Pro Glu Arg Thr Phe Ser Glu Arg Thr Leu		
	260	265	270
25	gct ttc gtc cgc ttt agc ctc gtg tcc ggc tgg ggc cag ctg ctc gac		981
	Ala Phe Val Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu Asp		
	275	280	285
30	cgg ggc gct acc gct ctc gag ctg atg gtg ctc aac gtc ccc cgg ctg		1029
	Arg Gly Ala Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg Leu		
	290	295	300
35	atg acc cag gac tgc ctg cag tcc cgc aaa gtg ggg gac tcc ccc		1077
	Met Thr Gln Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser Pro		
	310	315	320
40	aat atc acg gag tat atg ttt tgc gct ggc tat agc gat ggc tcc aag		1125
	Asn Ile Thr Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser Lys		
	325	330	335
45	gat agc tgc aag ggg gac tcc ggc ggg ccc cat gcc acg cac tat cgc		1173
	Asp Ser Cys Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr Arg		
	340	345	350
50	ggg acc tgg tac ctc acc ggg atc gtc agc tgg ggc cag ggc tgc gcc		1221
	Gly Thr Trp Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys Ala		
	355	360	365
55	acg gtg ggg cac ttt ggc gtc tac acg cgc gtc agc cag tac att gag		1269
	Thr Val Gly His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile Glu		
	370	375	380
	tgg ctg cag aag ctc atg cgg agc gaa ccc cgg ccc ggg gtg ctc ctg		1317
	Trp Leu Gln Lys Leu Met Arg Ser Glu Pro Arg Pro Gly Val Leu Leu		
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60	cgg gcc cct ttc cct tga taa		1338
	Arg Ala Pro Phe Pro		
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5 <211> 406
 <212> PRT
 <213> Homo sapiens
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 Cys Lys Glu Glu Gln Cys Ser Phe Glu Glu Ala Arg Glu Ile Phe Lys
 20 25 30
 Asp Ala Glu Arg Thr Lys Leu Phe Trp Ile Ser Tyr Ser Asp Gly Asp
 15 35 40 45
 Gln Cys Ala Ser Ser Pro Cys Gln Asn Gly Gly Ser Cys Lys Asp Gln
 50 55 60
 Leu Gln Ser Tyr Ile Cys Phe Cys Leu Pro Ala Phe Glu Gly Arg Asn
 65 70 75 80
 20 Cys Glu Thr His Lys Asp Asp Gln Leu Ile Cys Val Asn Glu Asn Gly
 85 90 95
 Gly Cys Glu Gln Tyr Cys Ser Asp His Thr Gly Thr Lys Arg Ser Cys
 100 105 110
 25 Arg Cys His Glu Gly Tyr Ser Leu Leu Ala Asp Gly Val Ser Cys Thr
 115 120 125
 Pro Thr Val Glu Tyr Pro Cys Gly Lys Ile Pro Ile Leu Glu Lys Arg
 130 135 140
 30 Asn Ala Ser Lys Pro Gln Gly Arg Ile Val Gly Gly Lys Val Cys Pro
 145 150 155 160
 Lys Gly Glu Cys Pro Trp Gln Val Leu Leu Val Asn Gly Ala Gln
 165 170 175
 Leu Cys Gly Gly Thr Leu Ile Asn Thr Ile Trp Val Val Ser Ala Ala
 180 185 190
 35 His Cys Phe Asp Lys Ile Lys Asn Trp Arg Asn Leu Ile Ala Val Leu
 195 200 205
 Gly Glu His Asp Leu Ser Glu His Asp Gly Asp Glu Gln Ser Arg Arg
 210 215 220
 Val Ala Gln Val Ile Ile Pro Ser Thr Tyr Val Pro Gly Thr Thr Asn
 225 230 235 240
 40 His Asp Ile Ala Leu Leu Arg Leu His Gln Pro Val Val Leu Thr Asp
 245 250 255
 His Val Val Pro Leu Cys Leu Pro Glu Arg Thr Phe Ser Glu Arg Thr
 260 265 270
 45 Leu Ala Phe Val Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu
 275 280 285
 Asp Arg Gly Ala Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg
 290 295 300
 Leu Met Thr Gln Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser
 305 310 315 320
 50 Pro Asn Ile Thr Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser
 325 330 335
 Lys Asp Ser Cys Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr
 340 345 350
 55 Arg Gly Thr Trp Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys
 355 360 365
 Ala Thr Val Gly His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile
 370 375 380
 Glu Trp Leu Gln Lys Leu Met Arg Ser Glu Pro Arg Pro Gly Val Leu
 385 390 395 400
 60 Leu Arg Ala Pro Phe Pro
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10 <210> 4
 <211> 1357
 <212> DNA
 <213> Artificial Sequence

15 <220>
 <223> Description of Artificial Sequence: Expression
 cassette for expression of FVII in mammalian cells

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 ggcggggcc aatgccttgc tggaaagagct ccgcctcgtcc tccctggAAC gcgaatgcAA 180
 agaggaacAG tgcagctttg aggaAGcccG ggagatTTTC aaAGACGCTG aGCGGACCAA 240
 actgttttgg attagctata gcgatggcGA tcagtgcGCC tccagccCTT gccAGAAcGG 300
 gggctcctgc aaAGACCAGC tgcagAGCTA tatctgcTT tgcctgcCTG cctttgagGG 360
 gcgcaattgc gaaACCCATA aggatgACCA gctgatttgc gtcaacgAAA acgggggCTG 420
 25 cgagcagtac tgcagcgtac acacgggcAC gaagcggAGC tgccgctGCC acgaaggCTA 480
 tagcctcctg gctgacgggg tgcctgcAC gcccacggGT gaataccCTT gcgggaAGAT 540
 tcccattcta gaaaAGCgGA acgctAGCAA accccAGGGC cggatcgtcG gcgggaAGGT 600
 ctgcctctaAG ggggaggtGCC cctggcaggT cctgcctcTG gtcaacgggg cccagctGTG 660
 cggcgggacc ctcataata ccatttggGT cgtgtccGCC gctcaCTGT tcgataAGAT 720
 30 taagaattgg cggAACCTCA tcgctgtGCT cggcgaACAC gatctgtCCG agcatgacGG 780
 ggacgaacAG tcccggcGGG tggctcaggT catcattccc tccacctatG tgcctggcac 840
 gaccaatcac gatatcgCTC tgctccgcCT ccaccAGccc gtcgtgCTA ccgatCACGT 900
 cgtgcctcTG tgcctgcCTG agcggacCTT tagcgaACGC acgctggCTT tcgtccgcTT 960
 tagcctcgtG tccggctGGG gccagctGCT cgaccggGGC gctaccGCTC tcgagctGAT 1020
 35 ggtgctcaac gtcccccGGC tgatgACCCa ggactgcCTG cagcagtccc gcaaagtGGG 1080
 ggactcccccc aatatCACGG agtataTGTT ttgcgtGGC tatagcgtG gctccaAGGA 1140
 tagctgcaag ggggactCCG gcccggccca tgccacgcAC tatcgcgGGA cctggtaCCT 1200
 caccgggatc gtcagctGGG gccaggGCTG cggccacggGT gggcaCTTG gcgtctacAC 1260
 gcgctcAGC cagtacattG agtgggtGCA gaagctcatG cggagcgaAC cccggccccGG 1320
 40 ggtgctcctG cggggccCTT tcccttgata aaagCTT 1357

45 <210> 5
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 <212> DNA
 <213> Artificial Sequence

50 <220>
 <223> Description of Artificial Sequence: Primer
 CBProFpr174

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60 <210> 6
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>

5 <223> Description of Artificial Sequence: Primer
CBProFpr175

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15 <210> 7
<211> 30
<212> DNA
<213> Artificial Sequence

20 <220>
<223> Description of Artificial Sequence: Primer
CBProFpr216

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cttaaggatc ccgccaccat ggtcagccag 30

30 <210> 8
<211> 28
<212> DNA
<213> Artificial Sequence

35 <220>
<223> Description of Artificial Sequence: Primer
CBProFpr229

40 <400> 8
ggagcccccg gttttgttgg actgctgc 28

45 <210> 9
<211> 21
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer
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<400> 9
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50 <210> 10
<211> 28
<212> DNA
<213> Artificial Sequence

55 <220>
<223> Description of Artificial Sequence: Primer
CBProFpr228

60 <400> 10
gcagcagtcc aacaaaaccg gggactcc 28

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<210> 11
<211> 30
<212> DNA
10 <213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
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